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# The informal use of Reductio ad Absurdum

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**KEY WORDS:** Reductio ad absurdum, argumentation scheme, classification, hypothetical reasoning, argument of sign, argument by analogy

**ABSTRACT:** This lecture considers the place of Reductio ad Absurdum (RAA) in an informal theory of argumentation. It asks the question: How should RAA be classified in modern argumentation theory? I'm particularly interested in how this argument would fit in the pragma-dialectical, threefold of argumentation schemes. I will – at least provisionally – argue that informal use of RAA consists of three kinds of reasoning, one of which belongs to the argumentation scheme of sign, one of which belongs to the argumentation scheme of comparison, and one of which is not an argumentation scheme, but consists in pointing out inconsistencies in the commitments of the opponent. This typology differs from that made by others (Ryle, 1945, p. 6; Groarke, Tindale & Fisher, 1997, p. 177; Schwed, 1999, p. 734-735).

Although this lecture is not concerned with legal reasoning, its occasion is. In jurisprudential literature the term RAA is used to indicate reasoning which makes an appeal to the absurd consequences of an initial premise (Alexy, 1989, p. 283; Golding, 1884, p. 38, 59; McCormick, 1978, p. 114 ff.). With this form of reasoning a certain interpretation of a legal rule is rejected on the grounds of its consequences, which would be unacceptable, meaningless, incomprehensible or the like (Alexy, 1989, p. 283). This definition leaves room not only for 'ordinary' arguments by which an appeal is made to undesirable consequences but also for arguments that appeal to other kinds of consequences—for example: artificial insemination by donor cannot be a ground for adultery, for, if it were, a consequence would be that it is possible to commit adultery with a dead person (McCormick, 1978, p. 148). In this example a certain interpretation is denied because its consequence is not just undesirable but creates a legal inconsistency, because it contradicts well-known juridical facts.

The differences in kinds of consequences led Kloosterhuis (2003) to conclude that we should distinguish between two kinds of RAA. The first – which he calls the wider sense of RAA – consists of pragmatic argumentation. The second – which he calls the strict sense of RAA – can be classified as a contextual-harmonization argument (McCormick & Summers, 1991, p. 513): the kind of argument by which it is determined whether a certain interpretation fits within the legal system. However, in my view there is no reason to use the name RAA for specific instances of pragmatic argumentation. Pragmatic argumentation is just pragmatic argumentation. In RAA the relationship between antecedent and consequence cannot be adequately characterised in terms of causality. When it is argued that artificial insemination by donor cannot be a ground for adultery, for, if it were, the consequence would be that one can commit adultery

with a dead person, this consequence does not seem to be literally *caused* by the antecedent. Instead one would say that the relationship between antecedent and consequence is one of logical necessity in the imagined world of the antecedent. And this means that with regard to RAA one should not talk about practical consequences that are absurd because they are undesirable, but instead about consequences that are absurd because they contradict well-known facts or generally accepted opinions.

Nonetheless, literature about juridical argumentation obviously shows confusion at this point. In order to be able to adequately evaluate the argument, one must know what the argument precisely amounts to. A review of argumentation theory shows that RAA is not commonly understood as pragmatic reasoning, although some authors implicitly or maybe coincidentally classify it that way.<sup>1</sup> However, this observation does not help us answer the question how RAA should be classified in modern argumentation theory.

The roots of RAA lie in ancient Greek mathematics (Kneale & Kneale, 1962, p. 7 ff.). At that time the argument was commonly named *reductio ad impossibile* (in Greek *hê eis to adunaton apagôgê* [Aristotle, *Prior Analytics* 29b6]). This is the method of indirect proof, e.g. the method of proving the irrationality of  $\sqrt{2}$  by assuming that  $\sqrt{2}$  is rational. This form of mathematical argument is characterised by the fact that the assumption being made in the first premise is self-contradictory, i.e. that the initial premise entails consequences that contradict each other (for more detail about self-contradiction, see Ambrose, 1944; Govier, p. 217-218).

The method of RAA can also be recognised in Plato's dialogues, where Socrates uses it to refute his adversary's stance by inducing concessions that lead to a contradiction with this stance. In the *Meno*, Plato uses the example that virtue is not teachable, for, if it were, the sons of Pericles, Themistocles and Aristides would have been virtuous, whereas reality shows that they are not. Kneale & Kneale (1962, p. 9) suggest that this method of reduction is what Plato in his middle period considers to be dialectic. This use of RAA differs from the mathematical use because the consequence that can be drawn from the assumption is not self-contradictory, but just establishes a falsehood.

According to Kneale and Kneale (1962, p. 9) the term *reductio ad absurdum* is considered more appropriate in the non-mathematical use of RAA than *reductio ad impossibile*. On the other hand Rescher (*The Internet Encyclopedia of Philosophy*, [www.iep.utm.edu/r/reductio.htm](http://www.iep.utm.edu/r/reductio.htm)) thinks the term *ad absurdum* more suitable for a self-contradiction (the strict, mathematical use), whereas, to convey a looser sense of the absurdity of the consequence, he would apply the terms *ad falsum* and *ad impossibile* when the consequence is a falsehood, or *ad ridiculum* or *ad incommodum* when it is an implausibility or anomaly.

Much of the modern literature on RAA is concerned with its logical analysis. The kind of RAA in which a positive statement *A* is proved by hypothetically stating its opposite and drawing untrue or ridiculous consequences from it, ends in a double negation of the statement:  $\neg A \rightarrow F$ ;  $\neg F$  (*F* is known to be false);  $\neg\neg A$  (by *modus tollens*). This double negation can only be reverted to the positive statement *A* by the law of excluded middle or the double negation rule, which are considered disputable rules in some logical systems (*Historisches Wörterbuch der Philosophie*). Although very interesting in themselves, these analyses do not concern me here. My interest lies in the informal use of RAA. In the literature on non-formal argumentation theory examples are given and different versions of RAA are distinguished. From these I have drawn a preliminary classification of three types of RAA.

<sup>1</sup> In their evaluation criteria Tindale and Gough (1987, p. 16-17) also speak of a 'causal development that leads to the conclusion.'

The first type of RAA is a subtype of the argument of sign: 1. It is not true that people basically like killing, 1.1 If this were true, everybody would be a serial killer, 1.1N That is obviously not the case (falsehood).<sup>2</sup> In this kind of argument, the standpoint is necessarily descriptive: it expresses a state of affairs. In the implicit argument (1.1N) it is stated that the consequence of the assumption expresses a falsehood (also descriptive). The relation between antecedent and consequence is one of logical necessity: in a world where people like killing, everybody necessarily must be a serial killer. This argument can be compared with a ‘normal’ argument of sign: 1. It is not true that people basically like killing, 1.1 We’re not all serial killers, 1.1N If we’re not all serial killers, then it is not true that people basically like killing. The RAA version and the normal version of this argument consist of the same elements, for the implicit premise in the normal version (1.1N) can be read (by *modus tollens*) as the explicit premise (1.1) in the RAA version.

The second type of RAA is a subtype of the argument by analogy. Perelman and Olbrechts-Tyteca (1969, p. 207) and Tindale and Gough (1987) connect this kind of argument with an ironical refutation of someone’s view. An example: 1. The assurance that threats [like warnings on a package of cigarettes] do not have desired consequences, or even invite the opposite, is nonsense (is not true), 1.1 If it were true, the Penal Law might as well be repealed (in other words, Penal Law would also be ineffective), 1.1N That is a ridiculous thought.<sup>3</sup> In this example the standpoint is descriptive, although that does not seem a necessary characteristic of this kind of RAA. It is also possible to find examples with an evaluative standpoint.<sup>4</sup> An incitive standpoint, however, would not be appropriate. Accordingly, the ridiculous thought mentioned in the implicit argument represents an evaluation or establishes a falsehood. The relationship between antecedent and consequence is one of comparison: if one thinks something to be the case, one must necessarily also believe something else (a comparable thing) to be the case. However, the comparable thing is so absurd that it entails the rejection of the antecedent.

The third type of RAA consists in pointing out inconsistencies in the commitments of the opponent. Rescher (*The Internet Encyclopedia of Philosophy*) calls it ‘doctrinal annihilation’ and I’ve taken the following example from him. Socrates’ accusers had charged him with godlessness. They also accused him of believing in inspired beings (*daimones*). But then inspiration must mean *divine* inspiration, as *daimones* are supposed to be beings inspired by a god. Socrates defended himself in asking them: how is it possible that someone does not believe in gods when he is acknowledged to believe in god-inspired beings? In doing so he points out the self-contradiction of his accusers’ claim, which shows its absurdity. Spelled out, the argument would run: 1. The accusation – that I do not believe in a god – makes no sense, 1.1a If I didn’t believe in any god, I would not believe in inspired beings, 1.1b You accuse me of believing in inspired beings, 1.1a-bN If you accuse me of inconsistent beliefs, the accusation is nonsense.

A systematic classification of kinds of argument is a prerequisite for a satisfactory analysis and evaluation of argumentation. Argument types differ as soon as other evaluation criteria are needed. The criteria provided in literature primarily focus on the contradiction between the consequence and presumed facts or opinions: it is not enough for the contradiction

<sup>2</sup> The numeration is taken from pragma-dialectics (see van Eemeren and Grootendorst, 1992, e.g. p. 87); the example is taken from a Dutch newspaper.

<sup>3</sup> Example drawn from a Dutch newspaper.

<sup>4</sup> Examples drawn from literature: The notion of ‘potential life’ is a bad argument against abortion. The statement that one should always return what has been borrowed from a friend when asked to do so, is unsound. The statement that it’s foolish to lock a car since a determined thief can still break in, is nonsense.

to be a simple contrary, it must exhaust the possibilities (Nolt, 1984, p. 158-159; Tindale and Gough, 1987, p. 16; Hoaglund, 2004, p. 424). Another criterion is asking whether the conclusion is actually absurd (Barnet & Bedau, 1993, p. 190; Crossley & Wilson, 1979, p. 166; Tindale and Gough, 1987, p. 17). Hoaglund also requires that 'the inference from one step to the next must be strong' (see also Tindale and Gough, who nevertheless call this inference the causal development that leads to the conclusion). In my lecture I will relate these kinds of evaluation criteria to the different elements of the schemes that I have distinguished.

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